

# Air Quality Summary—September 2008

Some data for the month of September are missing due to Hurricanes Gustav and Ike. In some instances, air monitoring sites were shut down prior to the arrival of the hurricanes to avoid damage and other data were lost due to power outages.

## **Baton Rouge Area**

There were no violations of the National Ambient Air Quality Standard (NAAQS) for ozone in the Baton Rouge area during the month of September, 2008.

*No Ozone Action Days were called in the Baton Rouge area during the month of September.*

## **Other Areas of the State**

There was only one violation of the standard for ozone during the month of September, 2008. On September 27, the monitor at Thibodaux reached 78 ppb/106 AQI.

*No Ozone Action Days were called for any other area of the state during the month of September.*

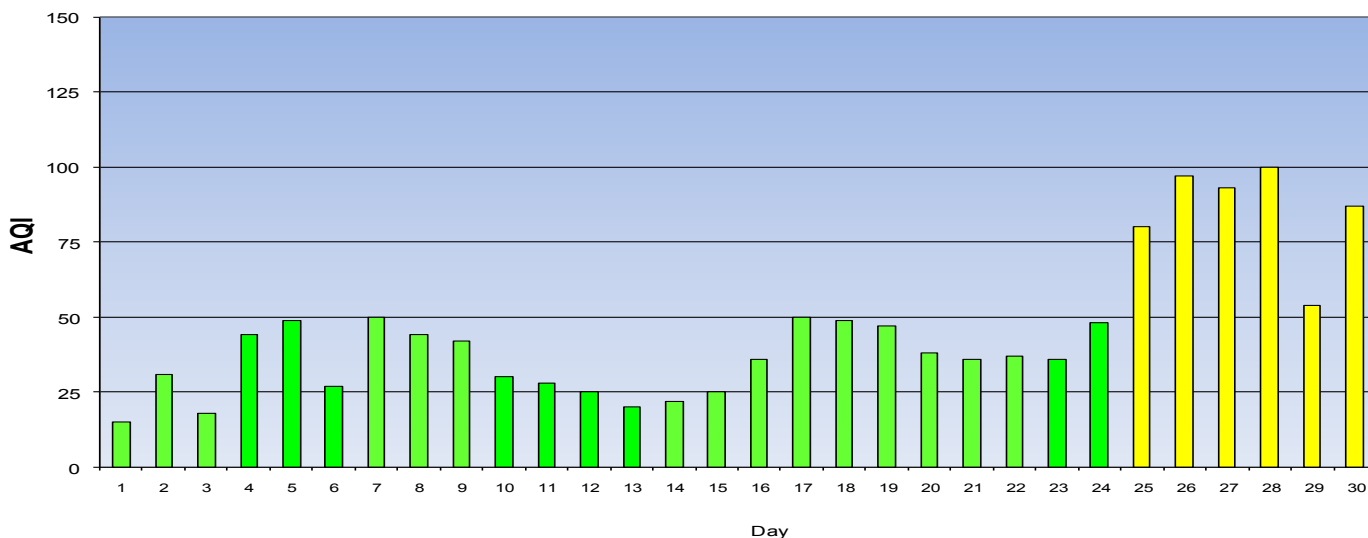


0-50	Good
51-100	Moderate
101-150	Unhealthy for Sensitive Groups
151-200	Unhealthy
201-300	Very Unhealthy

## Statewide 8-HR Ozone Readings /AQI Above 75 ppb

DATE	AQI	8-HR OZONE Concentration (ppb)	MONITORING SITE
9/27/2008	106	78	Thibodaux

**Baton Rouge Area Daily Maximum AQI  
SEPTEMBER 2008**



# Baton Rouge Climate Summary—September 2008

*\*Prepared by: Jay Grymes*

(based on available preliminary data as of October 21, 2008)

Hurricanes dominated the weather chat during September as Gustav and Ike delivering near back-to-back punches to the Bayou State. With peak winds in the 60-70 mph range across much of metro Baton Rouge, and gusts topping 90 mph, Hurricane Gustav proved to be a more destructive storm for the area than 1992's Andrew. At Metro Airport, Gustav's winds were similar to those recorded during 1965's Betsy -- but the region's extensive growth since the 1960s in terms of population, development and infrastructure resulted in a far greater impact by Gustav compared to Betsy. Indeed, Gustav now displaces Betsy as Baton Rouge's "signature tropical event." And while Ike had only limited effects across metro Baton Rouge, simply the threat of another landfall less than two weeks after Gustav had all of south Louisiana on edge.

From a climatic perspective, while the monthly mean temperature was only slightly above-average, September extends the region's run of warmer-than-normal weather to 14 consecutive months. And due to the tropical activity during the first half of the month, September rains were well-above normal, ranking among the 10 "wettest" Septembers since 1930 and the "wettest" September since 2005.

September's average monthly temperature for Metro Airport was 77.8°F, a modest 0.3° above the long-term monthly norm. Daily average temperatures were above-normal for 17 days. High temperatures reached 90° or more on just eight dates during the first half of the month, compared to the historical average of 13 days for the month. Indeed, September's average monthly maximum of 86.1° was actually more than a degree below normal, largely a result of the tropical clouds and rain during the first two weeks. Daily minimums for September averaged 69.4°, nearly 2° above the norm for monthly minimums.

Table 1: Average "daylight hours" sky conditions (to 12,000 ft) during September, based on ASOS observations from Baton Rouge Metro Airport.

Sky Condition: Sunrise to Sunset (Sky Coverage)	Clear to Mostly Sunny (0/10ths – 3/10ths)	Partly Cloudy / Partly Sunny (4/10ths – 6/10ths)	Mostly Cloudy to Cloudy (7/10ths – 10/10ths)
No. Days	12	6	12

September daylight hours (official Sunrise-to-Sunset period, excludes 'civil twilight') range from approximately 12.8 hours (Sep 1) to 11.9 hours (Sep 30).

Gustav and Ike produced virtually all of the region's rain during September, with rains during Sep 1-4 (Gustav) accounting for upwards of 80% or more of the monthly sum. September rainfall for Baton Rouge Metro Airport totaled 8.72", 3.88" inches above the monthly norm.

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Comparison of totals from stations across the greater metro area show that Metro Airport was one of the "drier" sites in the region: of the 19 reporting sites included in Table 2, 11 reported more than 10" of rain with 4 stations topping 12" for the month. (Only the LAIS automated weather station at St. Gabriel reported below-normal rain for the month, and that report appears questionable given the regional pattern of above-average rain totals.) Figure 1 reflects the temporal rainfall distribution during the month: virtually all of the significant rains fell during the first half of the month associated with the two tropical systems, with a relatively dry weather pattern established during the latter half of September (and extending into October). Yet even with the two-week dry spell to close the month, raindays (days  $\geq 0.01$ ") for the region were near- to above-average for September. Metro Airport recorded rain on nine dates -- equal to the long-term average -- but many metro area locations recorded 11 or more raindays and upwards of 4 days with one-inch of rain or more.

Table 2: September 2008 rainfall for selected NWS and LSU stations across the Baton Rouge metro area. (Data are preliminary.)

NWS Location	Monthly Rainfall	Monthly DFN	No. Days $\geq 0.01$ "	No. Days $\geq 1.00$ "
Baker	M	M	M	M
<b>BR - Metro AP</b>	<b>8.72"</b>	<b>+3.88"</b>	<b>9</b>	<b>3</b>
BR - Concord Estates	10.49"	+6.13"	11	4
BR - Sherwood Forest	6.49"	+1.84"	12	2
BR - LSU Campus	11.87"	--	11	4
Brusly (2 W)	12.76"	+8.29"	12	3
Central	8.02"	+3.41"	12	3
Clinton (LDAF)	11.43"	+6.65"	8	2
Denham Springs	6.36"	+2.09"	6	1
Gonzales	8.16"	+3.63"	8	2
Jackson (3 E)	12.94"	--	8E	2
Livingston	8.15"	+3.48"	13	2
LSU-Ben Hur Farm	10.39"	+5.85"	14	4
New Roads	11.94"	+7.05"	11	4
Oaknolia	10.43"	+5.51"	8	3
Port Allen	11.90"	+7.10"	8	4
Plaquemine (2 N)	8.18"	+3.11"	11	3
St. Francisville	13.44"	+9.00"	13	3
St. Gabriel	3.89"?	-0.63"?	13	1
Zachary	12.20"	+7.46"	8	2

DFN - Departure-from-Normal      "--" - Normals Not Available

M - Monthly Report Unavailable      E - Estimated Value

? - Reported Value, but Dubious

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September's monthly average wind speed was 6.1 mph, near the long-term average of 6.3 mph for Metro Airport. But the monthly average wind speed is skewed upwards by the two tropical systems: winds averaged over 25 mph for the day on Sep 1 (Gustav) and in excess of 18 mph on Sep 12 and 13 (Ike). By comparison, the remainder of the month was marked by very light winds -- average daily wind speeds were less than 5.0 mph between Sep 5 through 10, and never reached 5.0 mph after Sep 14 through month's end.

Figure 1: September 2008 *Daily Max/Min Temperatures and Precipitation* as recorded by the LSU AgCenter/LAIS Weather Station located at LSU-Burden Plantation (near the I-10/12 split).

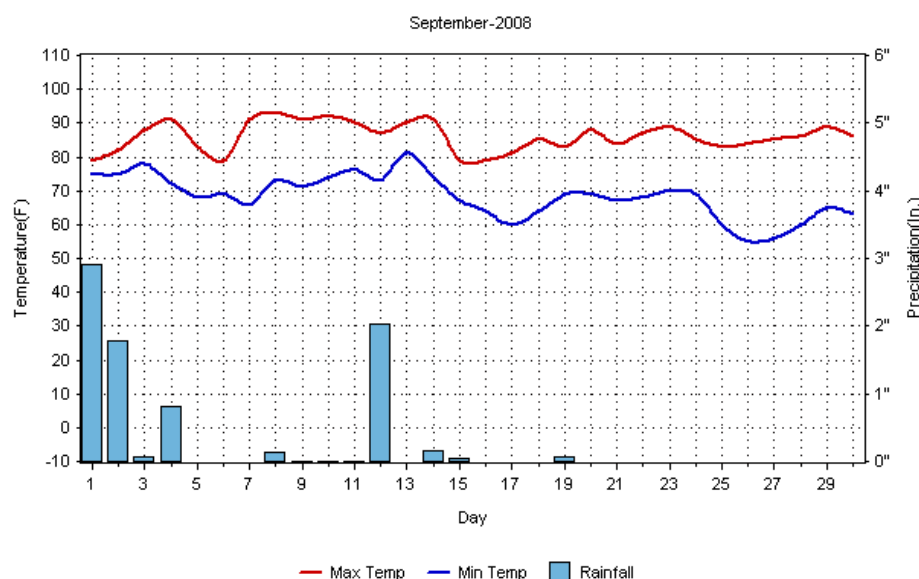
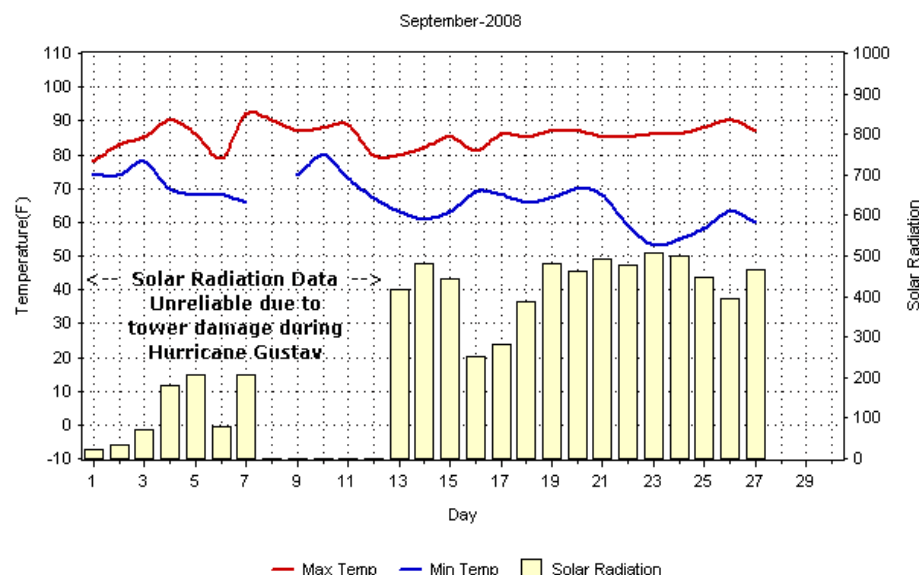


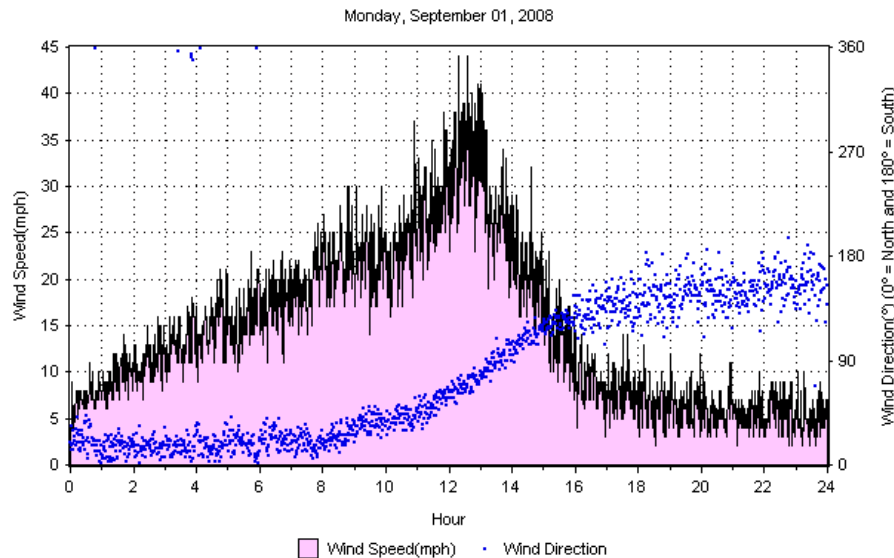
Figure 2: September 2008 *Daily Solar Radiation and Max/Min Temperatures* (as available) recorded by the LSU AgCenter/LAIS Weather Station located at LSU-Ben Hur Farm (Nicholson Drive). Sensor Failure attributed to tower damage during Hurricane Gustav.



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Figure 3: 1 September 2008, 1-Minute Sustained Wind Speed and Direction during Hurricane Gustav as recorded by the LSU AgCenter/LAIS Weather Station located at LSU-Burden Plantation (near the I-10/12 split). Hour is posted in CST; to convert to CDT, add one hour. The peak gust at Burden was 69.8 mph and occurred at 1:59PM CDT.



Winds at the LSU-Burden Plantation averaged near 30 mph or more for a period of more than 2 hours, with winds in excess of 20 mph for more than 6 hours. However, the LAIS staff believes that these winds may be somewhat low in terms of both peak sustained values and duration of elevated tropical winds with respect to conditions experienced across the Baton Rouge metro area during the height of Gustav's impact.

By comparison, the peak wind and gust at LSU-Ben Hur Farm (Nicholson Dr.) were 51.6 mph and 78.7 mph, respectively -- recorded at 1:22PM CDT. And these were likely not the true maximums for that location, as the weather tower collapsed, downed presumably by a higher peak wind and/or stronger gust. At Metro Airport, the day's peak sustained wind and peak gust were 61 mph and 91 mph, respectively -- speeds similar to the extremes recorded during 1965's Hurricane Betsy.

#### Acknowledgements:

- National Weather Service offices serving Louisiana
- LSU Southern Regional Climate Center & Louisiana Office of State Climatology
- LSU AgCenter / LAIS Weather Monitoring Program
- WAFB-TV (Ch. 9), Baton Rouge

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25 October 2008

\*Jay Grymes, LSU AgCenter Climatologist and WAFB Chief Meteorologist, provides the climatology portion of this report as a free service to DEQ and the citizens of Louisiana.